This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of fabricating a silicon-on-insulator substrate structure comprising:

providing a dopant region within a Si-containing substrate;

anodizing the dopant region to provide a first porosity region at a first depth of the Si-containing substrate and a second porosity region at a second depth of the Si-containing substrate greater than the first depth, wherein the second porosity region has a lower density that the first porosity region~~, providing a graded porous Si-containing structure~~; and

oxidizing said first porosity region and second porosity region of the ~~graded porous~~ Si-containing substrate, wherein the first porosity region coalesces to provide a solid Si-containing overlayer and the second porosity region is converted to a buried oxide region of a silicon on insulator structure during oxidation. ~~to form a silicon-on-insulator (SOI) structure having a uniform buried oxide layer and a Si-containing over-layer.~~

2. (Currently amended) The method of Claim 1 wherein the anodizing comprises ~~the providing step comprises ion implanting a dopant into a Si-containing substrate, activating the dopant within the Si-containing substrate to form an implanted and activated doped region and then subjecting said implanted and activated doped region to~~ an electrolytic anodization process.

3. (Currently amended) The method of Claim [[2]] 1 wherein the dopant region comprises ~~is~~ an n-type dopant or a p-type dopant.

4. (Currently amended) The method of Claim 3 wherein the dopant region comprises of [[is]] a p-type dopant selected from the group consisting of Ga, Al, B and BF_2.

5. (Original) The method of Claim 4 wherein the p-type dopant is B, said B is implanted at an energy of from about 100 keV to about 500 keV and a dose of about 5E15 atoms/cm^2 to about 5E16 atom/cm^2.

6. (Original) The method of Claim 4 wherein the p-type dopant is BF_2, said BF_2 is implanted at an energy of from about 500 keV to about 2500 keV and a dose of about 5E15 atoms/cm^2 to about 5E16 atom/cm^2.

7. (Currently amended) The method of Claim [[2]] 1 wherein the ~~activating step~~ dopant region is activated by ~~comprises~~ annealing.

8. (Original) The method of Claim 7 wherein the annealing is selected from the group consisting of a furnace anneal, a rapid thermal anneal, and a spike anneal.

9. (Original) The method of Claim 8 wherein the annealing is a furnace anneal step, said furnace anneal step is carried out at a temperature of about 600°C or greater for a time period of about 15 minutes or greater in the presence of an inert gas atmosphere, an oxidizing ambient or a mixture thereof.

10. (Original) The method of Claim 8 wherein the annealing is a rapid thermal anneal (RTA) step, said RTA step is carried out at a temperature of about 800°C or greater for a time period of about 5 minutes or less in the presence of an inert gas atmosphere, an oxidizing ambient or a mixture thereof.

11. (Original) The method of Claim 8 wherein the annealing is a spike annealing step, said spike annealing step is performed at a temperature of about 900°C or greater for a time period of about 1 second or less in the presence of an inert gas atmosphere, an oxidizing ambient or a mixture thereof.

12. (Currently amended) The method of Claim 1 [[2]] wherein the ~~anodization process~~ anodizing is performed in the presence of a HF-containing solution.

13. (Currently amended) The method of Claim 12 wherein the ~~anodization process~~ anodizing is performed using a constant current source operating at a current density of from about 0.05 to about 50 milliAmps/cm^2.

14. (Currently amended) The method of Claim 1 wherein ~~the porous Si-containing region~~ at least one of the first porosity region and the second porosity region has a porosity of about 0.01% or greater.

15. (Cancelled)

16. (Currently amended) The method of Claim 1 further comprising forming a cap layer atop the Si-containing substrate after said anodizing ~~providing step~~, but prior to said oxidizing.

17. (Original) The method of Claim 16 wherein the cap layer comprises a Si-containing material.

18. (Original) The method of Claim 1 wherein the oxidizing is performed in an oxygen-containing ambient.

19. (Original) The method of Claim 18 wherein the oxygen-containing ambient further comprises an inert gas.

20. (Original) The method of Claim 19 wherein the oxygen-containing ambient is selected from the group consisting of O_2, NO, N_2O, ozone, and air.

21. (Original) The method of Claim 1 wherein the oxidizing is performed at a temperature of from about 650°C to about 1350°C.

22. (Original) The method of Claim 1 wherein the oxidizing forms a surface oxide atop the Si-containing over-layer.

23. (Currently amended) The method of Claim 1 wherein the buried oxide layer is uniform ~~porous Si-containing region is continuous~~.

24. (Currently amended) The method of Claim 1 wherein the buried oxide layer comprises ~~porous Si-containing region comprises discrete islands and said buried oxide of said SOI structure comprises~~ discrete islands of thermal oxide.

25. (Cancelled)

26. (Original) The method of Claim 1 further comprising repeating the providing and oxidizing steps any number of times to provide a multi-layered Si-on-insulator material.

27. (Original) The method of Claim 1 further comprising a pre-oxidization step prior to said oxidizing, said pre-oxidization step includes oxidation in a wet oxygen ambient.

28. (Original) The method of Claim 27 wherein said pre-oxidization step is performed at a temperature from about 600°C to about 1200°C.

29. (Original) The method of Claim 1 further comprising a post oxidation step, said post oxidation step comprising a thermal anneal in a hydrogen ambient.

30. (Original) The method of Claim 29 wherein the post oxidization step is performed at a temperature from about 900°C to about 1200°C.

31. (Original) The method of Claim 2 further comprising implanting a neutral ion into said Si-containing substrate prior to or after said implanting of said dopant.

32. (Original) The method of Claim 31 wherein said neutral ion comprises Si, Ne, Sn, Bi or Xe.

33. (Original) The method of Claim 31 wherein said implanting of neutral ions forms an amorphized region in said Si-containing substrate.

34. (Original) The method of Claim 31 wherein said neutral ion is Si and said implanting step is performed using a Si dose from about 1E15 to about 1E16 atoms/cm^2 and an implant energy from about 200 to about 500 keV at or below nominal room temperature.

35. (Original) The method of Claim 1 wherein said oxidizing step is performed using conditions sufficient to form a broken buried oxide region and a continuous buried oxide region.

36. (Original) The method of Claim 35 wherein said oxidizing is performed at a temperature below 1000°C.

37. (Cancelled)

38. (Cancelled)

39. (New) The method of Claim 1 further comprising patterning the Si-containing substrate prior to forming the dopant region.